

Chapter 7 Review Packet

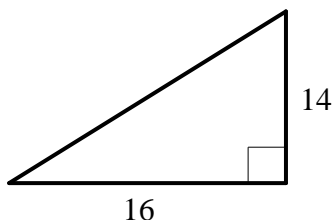
Show your equations on each problem. Round all answers to the nearest hundredth.

(Target A)

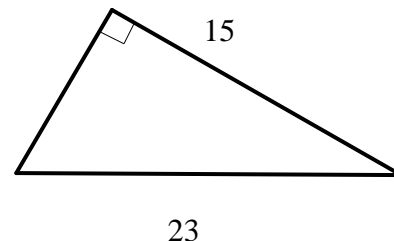
7.1 Pythagorean Theorem: True or False? In any triangle the sum of the squares of the two legs equals the square of the hypotenuse: $a^2 + b^2 = c^2$.

Solve these problems:

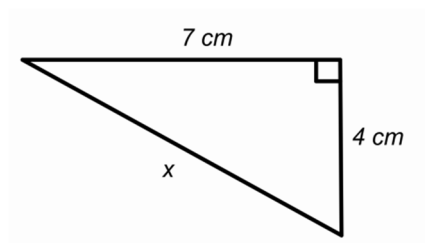
1) Find the hypotenuse:



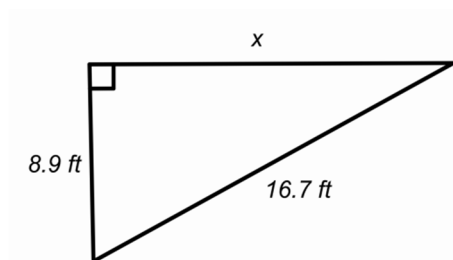
2) Find the leg:



3) Find the missing side:



4) Find the missing side:



5) What kind of triangle is the triangle with sides 14, 48 and 50? Show your work.

6) What kind of triangle is the triangle with sides 19, 21 and 22? Show your work.

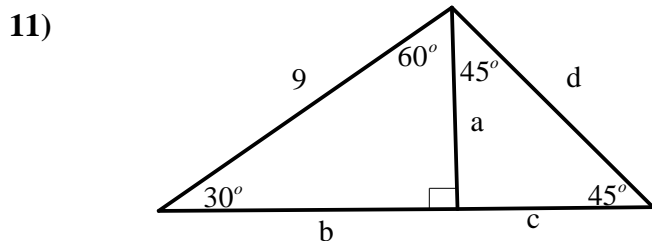
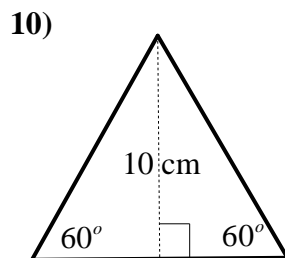
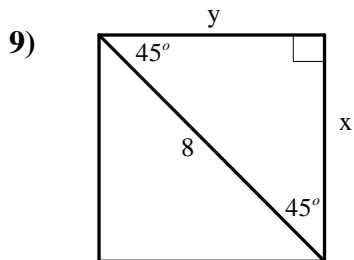
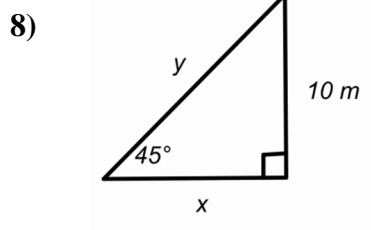
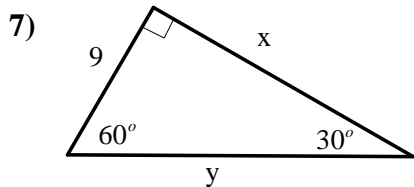
(Target B)

7.4 Special Right Triangles

In a $45^\circ - 45^\circ - 90^\circ$ triangle, to find the length of the hypotenuse multiply the leg by _____. Both legs measure the same, because this is an _____ right triangle.

In a $30^\circ - 60^\circ - 90^\circ$ triangle, to find the length of the hypotenuse multiply the short leg by _____ and to find the length of the long leg, multiply the short leg by _____. The short leg is opposite the _____ angle and the long leg is opposite the _____ angle.

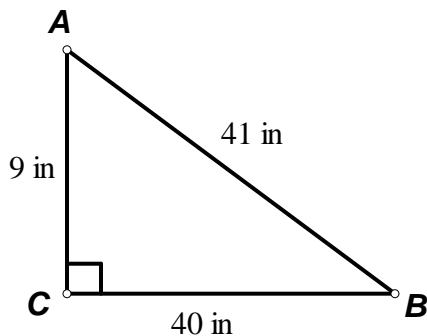
Solve these problems:



Perimeter = _____

(Target C)

7.5 & 7.6 Trigonometry: Ratios of the sides of right triangles. Do not forget to label opposite, adjacent, and hypotenuse – SOH CAH TOA



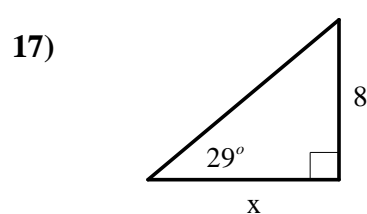
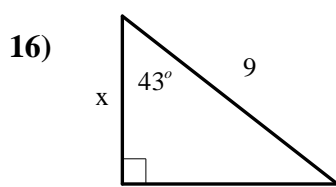
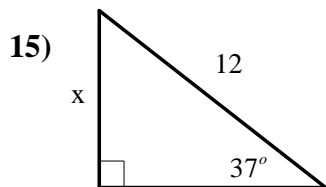
12) a. $\sin \angle A$ _____ b. $\sin \angle B$ _____

13) a. $\cos \angle A$ _____ b. $\cos \angle B$ _____

14) a. $\tan \angle A$ _____ b. $\tan \angle B$ _____

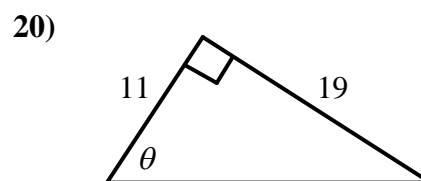
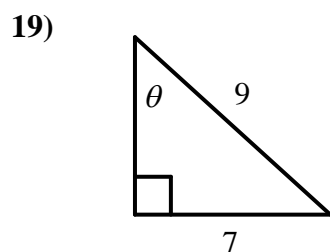
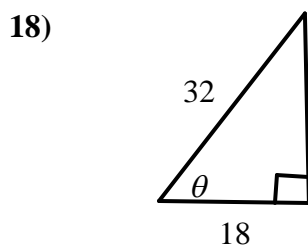
(Target D)

Find the missing side (use $\sin \theta$, $\cos \theta$, and $\tan \theta$)



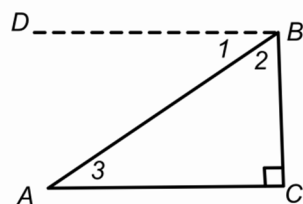
(Target E)

Find the missing angle θ .



Angle of Elevation and Angle of Depression, Word problems

Adam is at point A, looking up at a bird on top of the flagpole \overline{BC} . \overline{AC} and \overline{DB} are both horizontal.



21) Name the angle of elevation from Adam to the bird. _____

22) Name the angle of depression from the bird to Adam. _____

23) How are the angle of depression and the angle of elevation related?

- A. They are complementary.
- B. They are congruent.
- C. They are supplementary.
- D. The angle of elevation is larger.

Why?

- 24)** Sarah is standing 30 feet from the flagpole and can see the top of the flagpole at a 35° angle of elevation. If her eyes are 5 feet off the ground, how tall is the flagpole. Be sure to draw a picture and show your work.
- 25)** A 20 foot ladder is leaning against a house at a 37° angle with the ground. How high above the ground does the ladder reach? Draw your triangle, and show your work.
- 26)** A surveyor is standing 118 feet from the Washington Monument. The surveyor measures the angle between the ground and the monument to be 78° . How tall is the monument? Show your triangle and your work.